THE VETERINARY RECORD

A Weekly Journal for the Profession.

Edited by WILLIAM HUNTING, F.R.C.V.S.

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Mr. HANBURY ON GLANDERS.

On July the 30th the President of the Board of Agriculture received a deputation of the London County Council, in reference to the increase of glanders in London. We believe no reporter was present, but *The British Medical Journal* published on August 17th a summary of what was said by and to the deputation.

The spokesmen of the London County Council are reported to have drawn attention to the great increase of the disease, and to have said—"The chief interest, however, centred in the pathological questions of the value of mallein as a diagnostic agent, and the curability of the disease by its aid." This is a very curious report and, if correct, suggests that the representatives of the London County Council had not quite grasped the question. The chief requisite for all bodies interested in the suppression of glanders is power to deal with the infected horses which have not developed visible signs of disease. Whether mallein is a cure for glanders or not has little bearing on the measures necessary for the prevention of spread of the disease. The diagnostic action of mallein has long since ceased to be a question of great interest—it is an accepted fact. Even the Board of Agriculture has advised and ordered its use for at least three or four years, and the London County Council regularly pays extra compensation for horses killed solely on the indications of mallein. If the deputation distracted Mr. Hanbury's mind from the really essential points by centreing it upon mallein, we can hardly blame the President for not assenting to any of their suggestions.

We infer that other suggestions were made, because Mr. Hanbury in his reply is reported to have referred to more than one. He "refused to entertain the idea of rendering notification of glanders compulsory by veterinary surgeons." This is a very immaterial point. It might do a little good, and why Mr. Hanbury "refused to entertain the idea" we cannot imagine, as the profession some years ago assented to the adoption of such a course. Mr. Hanbury next "objected to giving further powers to the Council to deal with in-contact cases, and so indirectly coerce owners into employing mallein." This is a very serious statement, and marks a retrogressive step on the part of the Board. The Departmental Committee of 1899 made this one of their recommendations, and for a new President to curtly state that he is opposed to it sounds like arrogance and ignorance. It probably is not—only misdirection.

It will be remembered that when Mr. Hanbury was appointed President of the Board of Agriculture he very frankly and publicly acknowledged his absolute ignorance of the work of the Department. No doubt he trusted to be guided by the permanent officials, the experts who direct polititians in all our Government Departments. Naturally one would expect the veterinary officers to guide their chief on any such subject as the control of contagious animal diseases. But this cannot have been. Mr. Cope was a member of the committee and assented to the recommendation we have mentioned. There was one member of the committee, and only one, who objected to this recommendation to give power to deal with in-contact horses. That member was not a veterinary surgeon, nor a medical man, nor a horse-owner. He was a retired infantry officer, and possessed just that knowledge of the subject which might be expected. It seems at first sight strange that Mr. Hanbury should ignore the whole committee and adopt the view of the individual of least knowledge. It is very plain when looked into. The retired infantry officer is director of the Veterinary Department of the Board of Agriculture and the man who, by his position, is able to wrongly advise his Chief. It is a scandal that such things should be, and it is a national disgrace that the annual loss of horses and of human lives from glanders should be perpetuated because one man has the audacity to pit his ignorance against a whole profession and against the two largest local authorities in the Kingdom. The veterinary profession are unanimous in believing that mallein is a trustworthy diagnostic agent, and that glanders can never be suppressed so long as infected horses are kept alive with healthy ones and sold from stable to stable. The London County Council and the Glasgow Corporation have asked for powers to use mallein and deal with contact horses. Mr. Hanbury refuses such powers simply and solely on the *ipse dixit* of Major Tennant—a retired infantry officer.

To return to the report—Mr. Hanbury is next stated to have "expressed doubt as to whether the last word had yet been said as to the value of mallein in determining need for slaughter." This is altogether too oracular. Mallein must be looked upon by the Board as a very remarkable substance. What material is there in the universe about which the "last word" has been said? Why should finality be required in our knowledge of mallein? There is nothing wanting in our knowledge of either glanders or mallein to warrant obstruction or hesitation in the suppression of disease. We hope to know more about both, but our comparative ignorance is no excuse for declining to apply our present knowledge. Finally, Mr. Hanbury told the deputation that "following the recommendations of the last Departmental Committee the Board had instituted a series of investigations, etc." We venture to say that this remark was not founded on any knowledge of the investigation possessed by Mr. Hanbury, and that whoever misled him as to the necessity, the scope, or the probable results of experiments was either ignorant or wilful.

The British Medical Journal comments upon Mr. Hanbury's remarks thus—"There can be little doubt that the present Glanders Orders are based upon pathological assumptions which are either obsolete or erroneous"—but Major Tennant thinks otherwise.

GLANDERS—ITS SPREAD AND SUPPRESSION.

By William Hunting, F.R.C.V.S.

Read at the meeting of the North of England V.M.S. at Newcastle-on-Tyne, Friday, August 16.

Before a veterinary audience it is not necessary—as it was 30 years ago—to demonstrate the cause of glanders and to prove that farcy and glanders are only names for one disease showing itself in somewhat different forms. We all know that glanders is due to the presence in the body of a specific and well identified organism—the Bacillus mallei. We know too that this organism does not possess the remarkable vitality at one time assigned to it. Stables and buildings are not infected for months. The bacillus is killed by direct sunlight in two or three hours, by various disinfectants in a few minutes, and by dessication in a short time. Probably, outside the living animal, the glanders bacillus never retains its vitality for over three weeks.

Cattle and swine are immune. Guinea-pigs are very susceptible. The horse is the animal specially invaded by the bacillus, but nearly all warm blooded animals may be affected, and the human subject has afforded many victims to the disease. During this last 20 years nearly a hundred human lives have been sacrificed to glanderous infection, whilst the equine loss is just under 33,000.

The annual loss of 1,600 horses cannot be valued at less than £32,000. This year, like last, the loss from glanders is above the average—in fact the Government returns show that the horses lost in 1900 numbered 1,858, whilst 20 years ago, in 1881, they only reached 1,720. No further facts are necessary to demonstrate the inefficiency of existing legislation.

It is an easy but unprofitable task to show that rules and regulations are inefficient or injurious unless we can also show how they may be improved, and therefore I propose to indicate how regulations for the suppression of glanders might be issued which would be successful and economical.

The foundations upon which such regulations must rest are a knowledge of how the disease is spread and the experience of past legislation. Our pathological knowledge of glanders is perhaps more complete than that of any other disease. No case occurs save as the result of the passage of a definite organism from a diseased to a healthy animal. Some difference of opinion exists as to the exact methods of infection, but these differences are not of much practical value if we bear in mind that the removal of infected centres - diseased horses – at once stops infection. About this there can be no dispute, because there are hundreds of studs from which the disease has been stamped out simply by removing all the diseased horses.

Modes of Infection.—There are two demonstrated and one surmised. Inoculation and ingestion have both been experimentally demonstrated as modes of infection. There is abundant clinical observation of their effects and no one denies their potentiality.

Inhalation is surmised to be a method of infection. No experiment has demonstrated its possibility, and clinical observation is altogether opposed to it. If the air of a stable carried infection diffused through it we should certainly have found glanders more commonly amongst horse-keepers. Not many years ago there were stables in which every horse was glandered and yet the human tenants who spent 12 hours a day in the stable escaped infection. We may safely disregard inhalation as a method of infection. Inoculation is now uncommon. In the days when farcy was treated, and warm fomentation of running sores and swollen legs was adopted, it was not uncommon to see cases where wounds were inoculated by sponges etc., which had been used on diseased horses. The common method of infection—practically the only one—is ingestion. A diseased horse infects either food or water, or it may be the manger or trough, and the healthy horse takes into his system the living bacillus. Sometimes the bacillus passes direct into the stomach or intestines, sometimes it may penetrate the membrane of mouth or throat, in which case the first symptom shown is enlargement of the sub-maxillary gland. This glandular enlargement frequently occurs when the lungs have been affected for months, but it is often the only symptom shown for weeks and then subsides. A year or more may then elapse before other signs of disease develope. Nocard has shown that when the bacillus is enclosed in a gelatine capsule and passed direct into the œsophagus glanders follows, and that the only lesions to be found on post-mortem examination are in the lungs. Doubtless ingestion of contaminated water or food is the usual method of infection in glanders.

A visibly diseased horse is certainly a dangerous infective centre, but as horses may be diseased for years without clinical evidence of their condition it becomes a matter of importance to decide at what time after infection a horse is infective, or in other words, what danger to healthy horses exists from cohabitation with infected horses which have not developed clinical signs of the disease.

If I may base an opinion upon my observation I should say that few glandered horses are infective until they show some clinical sign of disease. When a nasal discharge takes place the horse is dangerously infective, because there is ulceration of nasal membrane or of larynx in which active bacilli are present. Nodules in the lungs may exist for months and give rise to nothing more than a local disease. Unfortunately bacilli may escape into the lymph stream and from that into the blood, they may also get into a small air tube and thus reach the trachea or nasal chamber. Although I believe that the horse suffering from latent glanders is seldom an infective centre, I must allow that he is dangerous because capable of suddenly becoming infective by the development of clinical symptoms of disease.

Period of Incubation.—If by this is meant the time which elapses between the day of infection and the day on which symptoms of disease are detected I can safely answer that it is unlimited. Some infected horses never show signs of developed disease. Many continue working for twelve to eighteen months after infection before exhibiting glanders. A few show developed disease, are ill for a week or two, and then resume work for years with no sign of glanders.

If the period of incubation is counted from the time of infection to the time at which lesions in the lungs appear, we may put it at three weeks when ingestion was the mode of infection. If the mode of infection is inoculation, the period of incubation is only a few days, as local signs soon appear.

Predisposing Causes.—I rather doubt whether ventilation, feeding, work, or constitutional conditions have much effect on the origin of glanders in horses. The strongest and healthiest are not able to resist infection if a sufficient number of active bacilli gain entrance to the system. All debilitating influences cause more rapid development of the disease. Overwork or under-feeding are followed by the most frightful fatality in a stud infected with glanders, whereas the same class of horse in an equally infected stud will, on proper food and proper work, resist the full development of glanders for months. Old horses resist the development of the disease better than young ones.

Post-mortem Lesions.—The only constant and certain lesion of glanders is to be found in the lungs. With the exception of a few cases of farcy in which the diseased part is probably the seat of primary infection, no case of glanders fails to show nodules in the lungs. In many cases there is no other lesion. You may have ulceration of the trachea, larynx, or nasal membrane. Very rarely a nodule or two may be found in the liver or spleen.

Glanders in the lungs differs from tuberculosis in not being accompanied by much alteration of the pulmonary lymphatic glands. In some cases, however, the glands both above and under the trachea are found affected when cut open.

Suppression.

I repeat that we know all that is necessary about the cause, symptoms, spread and post-mortem appearance of glanders to safely draw up regulations for its suppression. We do not rely merely upon theoretical deductions from our pathological knowledge. We have the experience of legislation for thirty years, and the observations of skilled veterinarians for a much longer period. We know that the disease has over and over again been stamped out of stables and towns. We know that the British Army was, after a century of infection, cleared of disease and kept free for eight years. What has been often done may be done again. The two conditions which alone have been successful in stamping out glanders are (1) The early detection of the disease, and (2) The immediate slaughter of all infected animals.

These two measures have cleared studs and stables times without number, but still glanders remains with us, because infection is re-introduced from the stables of other persons. What is necessary is that regulations should be general and uniform—compulsorily enforced wherever the disease exists.

That some legislative measures should be adopted against glanders has long been recognised. In the time of Henry VIII. the law forbade glandered horses to be on commons or in fairs. In 1869 glanders was included in the Contagious Diseases of Animals Act, and it then became an offence to keep a glandered horse without notifying the fact to the authorities. Provision was also made forbidding the movement of glandered horses in or through public places. At that time glanders and farcy were supposed to be distinct diseases and no horse was considered glandered until he had a visible ulceration of the nasal membrane. When this symptom appeared the horse was slaughtered.

In 1873 a further advance was made, and Farcy was scheduled under the C. D. (A.) Act, but only for Notification and Isolation. The owner having notified could go on treating his case of farcy as long as he pleased. Of course many of these horses recovered so far as the visible symptoms went. The disease in their lungs continued, and only after a time clinical glanders became apparent. They might have been sold and bought two or three times between their first attack of farcy and their final development of glanders—of glanders with a nasal ulcer.

The weakness of this Order was soon recognised. Farcy was not merely a local form of glanders which could be cured. It was often only a manifestation on the skin of a disease which had a permanent hold on the lungs, and at any time a horse suffering from farcy might become a horse with developed glanders and infective nasal discharge. There were hundreds of instances of horses showing farcy symptoms which apparently recovered and lived for years without a sign of disease developing. The authorities recognised that to slaughter every case of farcy, as they then did glanders, without compensation would be considered an injustice by owners of horses and would lead to evasion of notification. Their difficulty was to arrange for compulsory slaughter with fair compensation, and this caused the postponement of improved legislation for some years.

In 1892 there was a great increase of glanders and public attention was fixed upon the question by the deaths of a number of human beings. The Board of Agriculture hurriedly issued a new Order—the Glanders Order of 1892. Both forms of the disease were to be treated alike—all were to be slaughtered and compensation paid by the Local Authorities to the owners. The compensation was fixed at one-half the value of the horse and no animal was to be valued at more than £30. Against this Order the London County Council protested, and for something over a year declined to slaughter unless at the request of the owner, when, of course, no compensation was given. As the London Authorities declined to act all the local authorities around London were obliged to do the same, to protect themselves from an inflow of the glandered animals from the Metropolis. The Order contained other provisions as to prohibition of movement and isolation. These were enforced stringently, and with the consequence that notification of the apparently milder cases was frequently evaded. Great injustice was done by this partial adoption of the law. Farcy and glanders had rightly been made one disease for the purpose of stamping-out, but only on the supposition that slaughter should be accompanied by liberal compensation. The local authorities evaded the compensation, and forced owners who notified to kill at their own expense or bear the prolonged expense of isolating for an indefinite time any horse showing, or which had shown, signs of disease.

In 1894 another Order was issued and is in force

at the present time. It provides for notification, and permits local authorities to slaughter and pay compensation to the extent of one-fourth value of the infected horse. Whilst allowing one-fourth value as the maximum compensation the Order also permits the payment of any sum not less than £2. The majority of local authorities pay the maximum sum, but the London County Council only pay £2, and this action more or less binds the surrounding counties to do the same, or to decline to slaughter at all, and thus evade compensation by keeping alive the diseased horses so long as the owner cares to incur the cost. The confusion which results from this Order allowing local authorities to slaughter or not as they think fit and to pay as compensation any sum from £2 up to the quarter value of a horse is very great and should be done away with. Regulations should be uniform and compulsory, so that glanders might be treated alike in every county and town.

The increased spread of glanders shows that this Order is insufficient even to control the disease. We know where it fails, and we know that regulations uniform and compulsory might stamp out the disease with very little more expense and trouble to the authorities and even more justice to the horse-owner.

The great defect is that no provision is made for the in-contact animals. In no other disease scheduled for prevention are regulations confined only to the visibly infected animals. Glanders is alone treated in this ridiculous manner, and, as it is of all the scheduled diseases the one in which latent disease is most common, it is the one in which strictest provision should be made for the infected cases which are still undeveloped. You may have a stud, from which a glandered horse is slaughtered once a week—a stud which you know is infected to the extent of 20 per cent. of its members—and yet no power exists to control those infected horses. Such a stud may be sold. Such studs or portions of them are sold every week and carry disease to previously healthy studs. Even when not sold they are constant sources of infection, infecting the new horses brought in and keeping up a continuous mass of infection.

Before the year 1891 the task of detecting the infected horse which had glanders lesions in his lungs, but which had developed no external signs was impossible. In that year mallein was discovered by a Russian veterinary surgeon, and in 1893 was used in this country as an aid to the diagnosis of the disease. This agent has now been largely and widely used. Experience has demonstrated beyond a doubt that it is a trustworthy diagnostic agent, and the whole veterinary profession is convinced that when used by an expert it infallibly detects glanders in at least 98 per cent. of cases—detects it, remember, when no other method of diagnosis is possible. But this is not all that can be said for mallein. It detects the disease in 24 hours, and detects it in a stage before it is capable of infecting other horses. Mallein has revolutionised the methods of controlling and stamping out glanders, and yet the Board of Agriculture make no use of it and fail to issue an Order which would permit Local Authorities to use it.

In 1898 the Corporation of the City of Glasgow sent a deputation to the President of the Board begging for powers to use mallein. They were politely told to wait. In 1899 a Departmental Committee recommended the use of mallein and the examination and detention of all in-contact horses. Still we are all waiting.

There is nothing more certain in preventive medicine than that glanders, by proper regulations, could be stamped out of this country in a very few years.

Very little alteration of the 1894 Order is necessary to make it an effective piece of legislation. Notification by the owner we now have. It would be better if we also had compulsory notification by veterinary surgeons of all cases seen by them.

Permission to Local Authorities to slaughter and pay compensation is now law. The required alteration of this is that slaughter should be compulsory.

The amount of compensation is now variable, it should be definite and uniform. The majority of authorities pay one-fourth value of the horse, some pay nothing, and the London County Council pay £2. All should pay alike, and a fair amount for clinically diseased animals would be one-fourth with a maximum payment of £5.

The Departmental Committee recommended that a higher compensation should be paid for horses killed on a reaction to mallein than is allowed for horses killed on clinical evidence of disease. This is a fair and expedient recommendation, and I suggest that it would be carried out by a compensation of half value with a maximum payment of £25.

The 1894 Order provides that a Local Authority may make regulations for regulating or preventing the movement of horses in or out of any stable or place in which glanders exists. It then specifically states that such regulations shall cease immediately after the removal of the diseased horse and the disinfection of the place. If this proviso were omitted authorities would have power to deal with the studs in which glanders prevailed, and they might then test all the in-contact horses with mallein and so detect every diseased animal in the place. It has been said that such power might be abused and the owner of a stud ruined by having his business suddenly stopped. This is an entirely fanciful difficulty and one easily provided for by a clause requiring immediate telegraphic information of the action to the Board of Agriculture, who would intervene in case of stupidity or tyranny. The testing of the whole stud could be carried out by a Local Authority with the co-operation of the owner. In accordance with the owner's interests or wishes the stud could be tested at once or in batches, and then nothing near so much inconvenience would be suffered by horseowners as is daily inflicted on the owners of other diseased stock.

The whole question is ripe for decision. The difficulties are slight and easily surmounted. I cannot help thinking that the fear to act is entirely due to ignorance, and that the predominance of lay officers at the Board—who, of course, are wanting in knowledge—is the sole cause of legislation for glanders being years behind the teaching of veterinary science and the desire of the public.

There is just one more point I must refer to—the curative action of mallein. If it could be shown that glanders was cured by repeated injections of mallein

we should have to revise our methods of stamping it out. There are sufficient observations recorded to show that although mallein has a curative action, there are cases upon which it has no controlling effect. Some horses that have shown no sign of glanders but which have reacted to mallein develop visible disease whilst being submitted to repeated injections of the agent. The fact is then narrowed down to this—that some horses may be cured by repeated injections. Experiments in London show about 50 per cent. of recoveries—not recoveries of clinical cases, but recoveries of horses which have shown no signs of disease save a well marked reaction to mallein. Such cases are those in which only a few nodules exist in the lungs, in other words they are horses in the earlier stages of disease. The curative action of mallein and the fact that very few infected horses are infective until they show clinical signs of disease, afford weighty evidence in favour of not immediately destroying all horses that react to mallein. If they are not destroyed they should be stabled together separate from other horses. They might be allowed to work subject to nightly return to their isolation stable. They should not be sold, and they should be slaughtered at any time on the request of the owner. There would certainly be some economy by such a proceeding, and very little risk to other horses.

There are, however, many conditions under which the isolation instead of slaughter of reactors would not be expedient. In many cases a suitable stable for isolating reacting horses could not be found. In the case of only one or two reactors being found in a large stud it would be folly to run any risk when the disease could be stamped out at once. In the case of an outbreak in some county or town usually free from disease it would be most unwise not to adopt the safe method of clearing the place at once.

In a few large studs of valuable horses in which the disease has been lingering for years it is probable that a large proportion of reactors might be found. Great cost and great interference with business would be avoided here by adopting isolation and repeated injection of mallein.

To meet such cases a new Order might provide powers to Local Authorities to use isolation, and might even allow an owner of horses to appeal to the Board of Agriculture for leave to adopt it under the superintendence of the Local Authority.

Between control of disease and its extermination there is a great difference. We are certain that glanders may be stamped out and therefore measures should be directed to that end. It has been stated that it is impossible to prevent the reintroduction of glanders from abroad by the imported horse, and therefore strong measures aiming at stamping-out are not justified. The reply to this is obvious, viz., that without strong measures we cannot even control glanders, and that with them we should experience neither difficulty nor delay in stamping-out any imported disease. If the possibility of reintroduction of disease from abroad is to be considered a bar to any thorough measures here for its extermination, the Board of Agriculture is most illogical in its treatment of Foot-and-Mouth Disease. We have had a number of cases of reintroduction of Foot-and-Mouth but the Board has successfully met them. If we had reintroduction of glanders the regulations I have suggested would at once stamp it out.

FRACTURE OF THE OS CORONÆ.

By E. Wallis Hoare, F.R.C.V.S.

The subject was a valuable four year old hunter. While at exercise in the morning of August 10th he bolted, got rid of his rider and ran about in a mad fashion, came into contact with a wheel barrow in a narrow passage, and finally came into violent contact with a wall, which had the effect of throwing him down. The rider stated that the animal suddenly put down his head and managed to get off the bridle, he then bolted, and the only chance for the rider was to throw himself off.

On examination I found the horse unable to place any weight on the off fore leg, the pastern was swollen and painful, the hollow of the heel was also swollen, and there was marked constitutional disturbance present.

After a short time he would place the heel on the ground and elevate the toe to a slight degree. On manipulating the pastern, slight crepitation could be discovered, and there was abnormal mobility in the corono-pedal-articulation. On the near fore leg there were extensive wounds in the region of the knee, and great laceration of the tissues. The animal was destroyed.

On examining the leg, I found the subcutaneous tissues infiltrated from below the knee to the foot, large masses of gelatinous blood-stained material being present along the flexor tendons and in the hollow of the heel. The inferior articular surface of the os suffraginis was denuded of cartilage anteriorly; the os coronæ was fractured into eight moderate sized irregular fragments, and ten minute pieces. The surface of the perforans tendon as it glides over the smooth surface at the back of the os coronæ was lacerated, and minute portions of the bone were found imbedded therein.

Remarks.—It is difficult to account for the manner in which the above serious injuries occurred. To my mind the point of interest is the slight degree of crepitation that could be discovered, and the absence of any displacement in the contour of the leg. At first the toe only touched the ground, later on the heel was placed on the ground with very slight elevation of the toe. But we would have expected some displacement in a lateral direction, as the articular surfaces of the bone were shattered into small portions.

BOVINE MALARIA.

I read with much interest in your issue of August 17th an abstract on Bovine Malaria, and in response to the wish expressed by the translator, desire to mention some of the results of my experience of the disease so prevalent in some parts of Ireland under the names "Red Water" and "Blood Murrain."

My appreciation of the description of the disease

given by Guglielmi, concides with that of your correspondent. I have noticed "red water" appearing most frequently amongst newly introduced animals in a herd, but have reason to believe that the disease as seen in this country is not so frequently fatal as in the countries where the researches quoted were carried on.

With regard to the parasitic nature of the disease I think there can now be no longer any doubt. Some time ago I invited Professor Mettam, Principal of the Royal Veterinary College of Ireland, to investigate a case, and without any difficulty he demonstrated the presence of "pirosoma bigeminum" in the blood corpuscles. Since then he has also found the same organisms in one case brought under his notice by Mr. James McKenny of Dublin, and in others in localities far distant from one another in Ireland. I believe that his observations are not yet complete, but have his permission to mention the above. In his preparations I had no difficulty in recognising many of the forms described, the typical twin pear-shaped bodies being, perhaps, most usual. At the close of each of my pioneer lectures in North Leitrim when replying to queries from agriculturists, I found that this disease was the greatest scourge from which they suffered. The district is a poor one and veterinary practitioners few and far between, so that scientific information was not to be obtained. A fine field for research is there open. The stock-owners have the idea that "blood murrain" is not usually fatal unless it is attended by "dry murrain"—*i.e.*, obstinate impaction.

Blackrock, co. Dublin. FALKNER C. MASON.
24th August.

LACTATION IN YOUNG ANIMALS.

By HENRY GRAY.

There are many records of lactation in foals in the English veterinary journals, and a few years ago a case of "Lactation in a foal which showed signs of œstrum" was published, I believe, in *The Veterinary Journal*.

Bitches very commonly, and cats very rarely, come in milk about the time they should have parturiated, if they had been previously impregnated. It is very troublesome in pet bitches that are not allowed to bear young, as they usually come on in this condition at least twice a year and will act, if permitted, as foster parents to the offspring of another bitch and even cat. I have known of cases of the bitch, when in this state, stealing a puppy or kitten and giving it suck. Bitches of all ages, from six months and upwards, are liable to this anomaly.

Young sheep, when fed on young clover, etc., frequently secrete milk. I have seen a whole flock at one time so affected.

I have a photograph of an aged dog suffering from enlargement of its ectopic testicles showing functional mammary glands.

It is a fact well known to medical men that young non-pregnant girls and even young men may secrete milk.

ABSTRACTS FROM FOREIGN JOURNALS.

ANÆSTHESIA OF THE SPINAL CORD BY INJECTION OF COCAINE.

Prof. Baldoni gives an account of his experiments and practice of this method of anæsthesia in *La Clinica Vétérinaria*.

For dogs he uses a needle 7 cm. long, 1 mm. diam.; for horses 14 cm. by 1½ mm. and a sterilized 1 per cent. solution of cocaine; 1—6 c.c. for dogs, 5—15 c.c. for horses. The majority of the injections were made in the lumbar region, but some experiments were carried out in the dorsal and cervical regions; injections in the occipito atloid foramen always resulted in instant death.

In the horse as in the man the lumbar injections were made on a line uniting the antero-internal angles of the iliac bones so as to enter the lumbo-sacral foramen; it was found to be practically impossible to perform injections through the intervertebræ foramina of the lumbar vertebræ owing to the masses of tissue to be penetrated or avoided in reaching them.

In dogs a point of entry into the vertebræ space is more easily defined, for the lumbo-sacral foramen is the centre of a triangle whose apex is the posterior margin of the spinous apophysis of the last lumbar vertebra, and whose base is a line uniting the extremities of the posterior margin of the antero-internal angles of the iliac bones.

In the dorsal region of all animals injections may be made by placing the needle perpendicular to the base of the spinous process of the vertebra and following the anterior border of the rib to reach the intervertebral foramen. In the cervical region in horses injections are possible but not practicable. Five to eighteen minutes after injection the hind legs become limp, and in 20 to 30 minutes there is loss of sensation over the whole of the lower part of the body. The extent of anæsthesia seemed to be regulated more by the quantity of fluid injected than by the strength of the solution. The degree of insensibility obtained is not as absolute as the anæsthesia of chloroform, the anal and vesical sphincters are paralysed, but there is a muscular sensibility to touch in some degree. The pupil is dilated, respiration fuller and deeper, of normal rythm, pulse slightly increased in frequency, cardiac rythm normal. Sensibility returns after about half-an-hour's anæsthesia, and recovery is faster than after chloroform.

The method presents some advantages in the treatment of abdominal herniæ, but it has been overrated and among its disadvantages are the excessive sweating which occurs, the clonic spasms of the lower parts of the limbs, the disturbance of circulation and respiration, rise of temperature and vomition, meningitis or damage to the cord which are frequent sequelæ, and cocaine poisoning. Some animals show less susceptibility than others, and a dog and an ass did not suffer any inconvenience from strong doses injected on three successive days, but on the whole the method is too risky to recommend itself for practical purposes.

VETERINARY SOCIETIES.

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

(*Continued from p. 126*)

ALCOHOL IN PHYSIOLOGY AND THERAPEUTICS.

By W. Brown, M.R.C.V.S.

Mr. President and Gentlemen,—I feel I need not apologise for bringing this subject before our Association. Its importance can be estimated from the fact that probably no drug in the pharmacopœia is so widely and indiscriminately used with less knowledge of its real nature and effect than is alcohol. Familiarity is said to breed contempt, and the fact that this drug has been used so freely as a beverage among us, and almost with equal freedom as a kind of specific cure-all, has more than justified the persistent efforts made by a small but steadily increasing number of the medical profession, to rescue it from the empirics (be they ever so highly qualified) who have abused it and the dignity of the profession to which they belong. The indiscriminate prescribing of a highly dangerous and powerful drug to every imaginable complaint which flesh is heir to, without any regard to its real nature, and often without any real knowledge of its right place in therapeutics, is the action not of professional men but of quacks. Nor can we be said in our profession to be entirely free from the same charge. Is it not a fact that as a remedy alcohol is prescribed for every conceivable disease among us, and in one or other of its forms it is given constantly as a vehicle for other strong drugs?

Of absolute alcohol it is scarcely needful to speak. It is very rarely seen and never used among us. Its great affinity for water rendering it very difficult to obtain and still more difficult to keep. It is a clear colourless liquid, spirituous in nature, and very pungent to the smell and taste. It burns with a clear, very hot flame, completely consuming its carbon.

We deal. however, with the manufactured article, prepared in various forms as a beverage for the taste if not the need of man. These preparations are made by many different processes having nothing in common except the invariable presence in greater or less quantities of alcohol.

In the first place we notice that alcohol has all the properties and nature of those substances which we know as poisons, in other words that its nature is to destroy, not to build up animal life.

Dr. W. B. Carpenter describes some experiments made upon large dogs. Death resulted from large doses of alcohol in the same way as from prussic acid, opium and other poisons. He then states "The effects of large doses of strong alcoholic liquors upon man are of precisely the same kind as those which have been described as presenting themselves after the introduction of pure alcohol, in the stomach of animals.

It is often claimed for alcohol that it is not a poison, but in some measure acts as a food. You must pardon me if I lay particular stress on this statement which I believe to be entirely false, that on the contrary alcohol is in all senses of the word a poison, as contrasted with a food, that its physiological action is always in harmony with this supposition, and that in dealing with it as a therapeutic agent it behoves us to remember that we are not dealing with a mild "simple," harmless in its nature and gentle in its action, but with one of the most powerful drugs of which our pharmacopœia speaks, a most deadly poison, rapid in its action and most certain and far-reaching in its results. It may, however, be argued that even supposing alcohol be a poison as stated yet it is never given as alcohol pure and simple, but is made to blend with other fluids containing nutritious properties of a more or less high order. That the injurious effects of the drug are lessened by being largely diluted is of course self-evident, but that in such drinks as beer, stout, and porter (so largely vaunted for their nutritious properties) or that in the different wines or more ardent spirits, any nourishment of any account is present, I think a very short investigation will show. The great Chemist, Liebig, certainly no enemy of beer, says "we can prove with mathematical certainty that as much flour or meal as can lie on the point of a table knife is more nutritious than nine quarts of Bavarian beer (the best). That a man who is able daily to consume that amount of beer, obtains from it in a whole year, in the most favourable case, exactly the amount of nutritive constituents which is contained in a 5 lb. loaf of bread or in 3 lbs. of fish." So of wine, if all is taken from it which is known to be innutritious, we have nothing left but a few grains of sugar; and the same may be said with even greater force of ardent spirits. I have here a box compiled by Messrs. Southall, Birmingham chemists, in which are a number of substances split up into their component parts, and I think these specimens will very plainly demonstrate that whatever else mauufactured alcoholic drinks may claim, they cannot in any sense be termed nutritious.

If then alcholic drinks cannot be said to nourish, neither can they be said to convey heat to the animal system. Not only does it fail to provide a suitable fuel but it prevents that oxidization which is so necessary for the removal of the waste products of the body. The temperature of the human body stands at a normal level of 98½ F. If alcohol is taken a regular and steady fall in the temperature takes place, until in a state of intoxication a fall of from 2½ to 3° below normal is reached. Sir B. W. Richardson carried out a long series of experiments with the object of discovering the effect of alcohol on the temperature. He says, speaking of the effects of intoxication, "I have known as long a period as three days required to bring back a steady, natural return of the full animal warmth." The fatal effects of this reduction of temperature, in a cold atmosphere were clearly shewn by the following experiment: A warm blooded animal to which sufficient alcohol had been given to make it insensible and send it into a sound sleep, was placed in a chamber, the atmosphere of which was 10 degrees below freezing point. A similar animal which had no alcohol given to it, was placed in with it at the same time. "I find," he says, "that both sleep under these circumstances, but the alcoholic sleeps to die, the other sleeps more deeply than is natural and lives so long as the store of food it is supplied with continues to support life, within these bounds it awakes in a warmer air uninjured. Dr. U. S. Davis, of Chicago, U.S.A., says, speaking of a series of experiments he had carried out as to the effect of different articles of food on the temperature of the body: "These experiments prove conclusively that during the active period of digestion, after taking ordinary food, whether nitrogenous or carbonaceous, the temperature of the body is always increased; but after taking alcohol it begins to fall within half-an-hour, and continues to decrease for from two to three hours. The extent and duration of the reduction was in direct proportion to the amount of alcohol taken." This conclusively demonstrates that while alcohol burns readily outside the body emitting great heat it is worse than useless for this purpose inside the system. It is a significant fact. that in his polar expedition Nansen took no alcohol except in his medicine chest and for cooking purposes.

As to what becomes of alcohol when it enters the

system no very complete answer can be given. On entering the stomach it is at once rapidly absorbed by the blood and conveyed immediately into the blood current, some of it may probably be burnt up, and some may assume other forms. That a great portion passes through the body and gains exit unaltered was conclusively proved many years ago by the remarkable experiments carried out by three physicians and chemists of Paris, named Lallemand, Purin, and Duroy. Conducting these experiments first by means of æther and chloroform, with the object of proving what becomes of these substances after a state of insensibility has been reached, by aid of ingenious apparatus and numberless experiments, they demonstrated that when inhaled they are immediately absorbed by the blood and conveyed to the brain—as sensibility returns they escape mostly by the lungs, but that *all* escapes and unchanged. They next turned their attention to the nearly allied subject, alcohol, and the following remarkable results were obtained: in the moisture exhaling from the skin of a drunken dog they discovered the alcohol which made him drunk. At 6 o'clock in the evening they detected alcohol in the breath of a man who had partaken of claret at half past ten in the morning and at midnight this same claret was availing itself of other avenues of escape. They proved that the lungs exhale it, the pores of the skin let out a little, the kidneys do their part, in other words, by whatever avenue the body that God has given can kick out this so-called "good gift of God" it is kicked out. It is a guest which passes through the body creates a terrible disturbance there, is unceremoniously expelled without paying its bill or remembering the servants. Enough has been said to prove to all but demonstration, that an ounce of alcohol being taken into the system, almost the whole if not the whole, leaves the body just as good alcohol as when it entered within 48 hours before.

I said, however, that this guest made a great disturbance in passing through the system, and it is to the abnormal condition caused by alcoholic poisoning that I would next invite your attention.

Commencing for the sake of convenience with the blood, we find that its effect is especially apparent on the red corpuscles. (And let me say in considering its action here or elsewhere that it is always certain and exactly in proportion to the amount taken. These oxygen carriers it causes to shrink and in a drunkard they assume a shrivelled appearance. Less oxygen is taken up by the blood and less carbonic acid gas is brought back for expulsion by the lungs. Hence we have that deposit of the waste tissues of the body as fat and the fatty degeneration almost invariably found in the organs of heavy drinkers and the body turned into a veritable storehouse for rubbish.

The effect of alcohol upon the white corpuscles is not less apparent and probably not less serious. They, too, become hardened and shrivelled, and their activity is considerably lessened; the serious nature of anything which lessens the activity of these little scavengers of the system, we will notice later on.

Absolute alcohol will not absorb in the blood stream until it is largely diluted with water. In order to obtain this it draws largely from the blood. To this fact is attributed the burning thirst common amongst heavy drinkers, and it is a constant symptom of alcoholic poisoning.

Its interference with coagulation is well known, and its tendency to cause the corpuscles to adhere together, and thus cause embolism of the gravest kind, needs no demonstration from me.

That these properties of alcohol must have serious effects upon other organs is self evident. Whether we turn to the liver, kidneys, heart, nervous system, or the alimentary canal, the story with slight modifications is exactly the same.

The persistent claim put forward on behalf of this drug, that it aids digestion, cannot be too emphatically and strenuously denied, for its action is exactly the opposite. Sir D. W. Richardson declares: "I do not strain a syllable when I state that the worst forms of confirmed indigestion originate in the practice of indulging in intoxicating drink, in moderate quantities."

A small quantity of alcohol introduced into the stomach has the effect of any other irritant, of increasing the flow of the digestive fluids, and in this manner it is believed to aid digestion, but happily this fallacy is one which permits of the most absolute refutation.

When the glands are thus made more active by artificial means an unnatural quantity and not a natural quantity of gastric juice is discharged into the stomach, which is however, poorer and weaker in quality; and therefore, even from this point of view, no real advantage is gained. A continuation of this process, however, inevitably entails a drain upon the habitually over-worked glands, which ultimately refuse to do their work unless further stimulated, and what is at first taken to aid digestion becomes ultimately a necessity. If however, the drug be discontinued, the stomach ultimately regains its natural powers. As noticed in the commencement of this paper, the action of alcohol on ingesta is to harden and not dissolve it, this would be of far more serious import were it not that the stomach, treating the alcohol as an enemy, gets rid of it as quickly as possible by absorption, and it is carried away to work its mischief eleswhere. The presence of alcohol in the blood-vessels produces an inferior quality of gastric juice, even a small quantity destroying the digestive powers of pepsin, which it precipitates, and it becomes insoluble and useless. But it may be urged that the action of a glass of whisky or brandy is certainly to remove the disagreeable effects of over-eating, bolting the food, or partaking of indigestible food. The removal of the pain however, is very misleading, and the remedy is again infinitely worse than the disease, the real fact being that the pylorus is unnaturally opened to make room for the undigested food before the proper time and the extra work is thrown on the intestines and liver, etc., the last state of that man being in reality much worse than the first.

The liver has been described as a sentinel challenging and stopping anything injurious passing through the blood when this arrives loaded with material from the stomach, protecting it from injury by poisoning, etc. Alcohol absorbed as described is carried directly to this important organ, here it is challenged, and a great effort is made to excrete it, only very partially successful however, and the poison again flows on to do its wretched work elsewhere, not, however, beforé terribly injuring the organ, altering its structure and character and robbing it of its power of selecting the right materials for the blood. The action of alcohol is first to enlarge the liver through distension of its vessels, the surcharge of fluid, matter and the thickening of tissue. Continuous use gives rise to fatty degeneration, causes the organ ultimately to shrink unevenly, when it becomes hard, rough, and hobnailed, and we get the well known "gin drinker's liver," next to the brain the liver is probably more seriously injured by alcohol than any other part.

Of its action on the kidney it is hardly needful for me to speak. It is sufficient to say that its weakening and ultimately destructive influences on this all important organ is entirely on a par with that already noticed, there is no more frequent cause of fatty degeneration and disease of the kidney.

The human heart goes through an amount of work daily equal to the raising of 120 tons 1 foot, a moderate amount of alcohol will increase this to the tune of some 25 tons per diem, thus enormously adding to the already gigantic task the organ has to perform, through the paralysis of the nerves and nerve centres. In excess, fatty

degeneration with its attendant evils and results ensues. It is no uncommon thing to find that in a case of chronic alcoholic poisoning the heart is embedded in masses of fat.

Perhaps the most valuable contribution ever made to this most interesting investigation was almost unconciously carried out by Dr. William Beaumont, surgeon-general to the United States Army about 80 years ago. He had for his patient a French-Canadian huntsman by name Alexis St. Martin, who had been shot in the side. The ball made a large rent, penetrating both into stomach and chest and little or no hope was entertained for his recovery. However, exactly one year after, St. Martin was well enough to get out of doors and walk about the fort. By a most fortunate chance the aperture into the stomach never closed, and the process of digestion could be observed with the naked eye. Beaumont at once perceiving the extreme importance of the opportunity which presented itself, took the young man into his service and at intervals, for eight years, experimented on him. In 1833 he published a thin volume at Plattsburg, in which the results of thousands of experiments and observations were briefly stated. His investigations are especially valuable as he does not seem to have even heard of teetotalism, and so what he says is quite free from the suspicion which the arrogance and extravagance of some teetotallers have thrown over much that has been published on this subject.

Briefly, alcohol causes the coats of the stomach to assume an angry inflamed appearance, producing effects which were morbid, not healthy. All artificial drinks, tea, coffee, etc., are more or less injurious and retard digestion, as do mustard pepper, horseradish, etc.

Solid food is more easily digested than fluid. That the use of ardent spirit always retards digestion and produces disease if persisted in.

That St. Martin's system would be disordered to a terrible extent without his being much inconvenienced by it. After drinking hard for 8 or ten days the stomach would show alarming appearances of disease, and yet the man would only feel a slight head-ache and general dulness and langour.

The effect of alcohol on the minute capillaries is to make them relax, permitting more blood to circulate in the part where they lie. This being repeated time after time, they gradually lose their elasticity and their power of controlling the flow of blood to the various organs, the dull red appearance of the heavy drinker is an outward and visible sign of this fact. Alcohol weakens, stagnates, and paralyses, wherever it goes it is its invariable effect, and is in exact proportion to the amount taken.

Dr. Richardson declares: "We know now as surely as if we could see within the body what is the condition of the organs of persons who indulge in alcohol in what is considered a moderate degree, we are concious that the vessels of the brain, of the lungs, of the liver, of the kidneys, of the stomach are paralysed, and are loaded to full distension with blood."

Dr. Percy, a British physician, records that he injected two ounces of alcohol into the stomach of a dog, causing almost instant death, as quickly as possible removing the brain, he extracted from it a surprising amount of alcohol, far more than he could obtain from the blood or liver. On injecting small quantities not sufficient to cause death into dogs, he obtained an exactly similar result, in other words, alcohol is preminently a brain poison, having a special affinity for, and acting on, the nervous system, the small blood vessels dilating as described, and producing the too well known phenomena of inebriety, or loss of muscular control, stupification, insensibility, and even death.

Into this intensely interesting phase of the subject it is, however, needless for me to enter, as veterinary surgeons the problem of intoxication happily possesses no professional interest.

I think I have said amply sufficient to prove that whether used in animal or human medicine, alcohol is a drug terribly forceful in its effect, misleading and yet certain in its action, and capable of producing the most widespread and mischievious results, and yet as I said at the commencement of this paper, this is the agent which in both professions is used with a prodigality which nothing but colossal ignorance would even licence or tolerate among reasoning men. In the true sense of the term it cannot be called a stimulant, its apparently stimulating effect being entirely caused by its narcotic and not its stimulating properties, it is the paralysis of the pneumono-gastric nerve, and not the stimulation of the heart, which causes the deceptive increase in the heart's action. The most which can possibly be claimed for it as a stimulant is, that it borrows strength for the system at the expense of the system, by its use I can obtain at 4 o'clock that strength which is in reserve for 5 o'clock; this may be desirable to tide over a crisis, but the danger of it is sufficiently obvious. Its administration in cases of diarrhœa and heart failure in pratice may be justified, and for many years I practiced it, lately, however, my views in this direction have undergone considerable modification.

As to prescribing it in cases of inflammatory conditions of the lungs and vital organs, I believe it to be entirely contrary to the knowledge of its physiological action. Into a system already loaded with impurities you introduce a powerful drug the immediate effect of which is to arrest the function of the blood as stoker, scavenger, and builder to the system. Whether this is in accordance with sound practice I leave the members to judge. I know it is claimed that it has its place in the earlier stages of inflammatory diseases before the more active state has set in, as its action is to decrease the temperature of the body, but I need hardly point out that the action of the drugs of a less questionable nature, has precisely the same effect.

The habit of prescribing alcohol in wasting diseases such as influenza, is not less open to question, and is very misleading. As already pointed out whatever else alcohol may be, it is not a food in any real sense of the word; it cannot and does not build up the system. What it does is to give a transitory and altogether deceptive sense of stimulation and acquired strength, only to die out and require another dose in larger quantity if the same apparent relief is to be again felt.

In the very interesting and able paper given to us by our Secretary at our last meeting (whose removal to another sphere of labour will be a loss to this Society not very easily filled, and much regretted by us all) we had very vividly brought before us the all important work done for the body by the white corpuscles of the blood. That they are the great army of defence provided by nature and constantly on guard to protect the animal system from assaults from without. Any agent which interferes with this action, which causes it in any degree to become less effective, must on the face of it be considered a deadly foe to the body. What would be thought of a government which allowed the defences of its country to become obsolete and worn out, its guns rusted and defective, its arsenals depleted of stores of ammunition, its ports and dockyards neglected and starved, more reprehensible still, starved its officers and soldiers and rendered them incapable of performing their duties. I need not ask you; such a government would be called a band of traitors and would be held up to the ridicule, contempt, and retribution of the world. Yet this is just what alcohol does for the system. Blood which absorbs alcohol is unhealthy blood, the microscope shows it, that which is at once the defender of the system, its scavenger, its heating apparatus, and its builder, is deprived of much of its power of defence, crippled in its efforts to expel impurities, its power of warming the system, and its efficiency as a restorative. And yet this is the drug which we pour often in an almost

unlimited quantity down the throats of our innocent patients—I had well nigh said victims. Neither does the knife of the anatomist help us. The body that is accustomed to alcohol is an unhealthy body, not an organ escapes, liver, lungs, kidneys, stomach, heart, wherever you go it is all the same, all are affected, and injuriously.

In conclusion let me say that I do not for one moment mean to assert that this subject is comparable in its importance to our profession to that of the medical. The great danger, viz., that of creating an ever-increasing appetite for itself, is not present in our patients, but I trust I have said enough to establish the position I took up at the commencement, viz., that in using this drug we are employing an agent capable of the most dangerous, destructive, and far-reaching effects and which should not be used except when we have full knowledge of the disease we are treating, the drug we are using, and the effect we wish to produce.

Discussion.

Mr. W. Penhale said the paper which had just been read must have entailed a considerable amount of thought. It was full of records, experiments, and research as to the action of alcohol. Whilst he heard the paper with admiration, he could not fail to notice that it dealt with one side of the question only; almost entirely, in fact, with the use of large quantities of alcohol or extreme alcoholism. He believed everyone would agree that the use of large amounts of alcohol was extremely baneful and pernicious. It was said that there was not a family in England of which some of the members did not suffer from an over indulgence in the use of what he considered to be at times a valuable drug. It was generally agreed that the action of alcohol would produce fatty degeneration of the heart and what was known as "hob nail" liver, and it also had a remarkable and baneful influence on the nerve cells and on the brain itself. As they knew the effects on the mind were most disastrous. If it was indulged in to a great extent it would make a man neglectful of his family and of his business. Far worse than when it produced disease of the liver and heart, was it when it brought a respectable man to degradation. But as veterinary surgeons they were there to discuss the effect of alcohol on animals, and he believed the majority of the members would agree with him in saying there were times in their practice when they could use alcohol in moderate doses with the greatest benefit, and that they often obtained effects from it in cases of emergency such as no other drug would supply. There was nothing in their present pharmacopœia to act so readily as alcohol in certain situations.

The paper pointed out clearly that alcohol would reduce temperature. He had seen cases of a chronic nature where the temperature remained high, and after a few small doses of alcohol were given they could pull the temperature down within a few days and sometimes within a few hours from 104 to 102°, and then down to normal. In such cases other drugs had failed to produce this good effect. There could be no doubt that alcohol was a poison if used excessively, but it was good if used judiciously. It must be remembered that a few drops of prussic acid were capable of killing their patients, but there were diseases such as gastritis in which he knew of no drug so good. He thought they must look upon alcohol in much the same light. That was to say that because it was a poison in large doses they must not condemn its use as a medicine in small or proper doses. The essayist had rather derided its power as an aid to digestion. But there could be no doubt that it was an aid in small doses; experiments had shown that it would produce a flow of the gastric juice and, that being so, it must be an aid to digestion. It must also be nutritious in certain instances. Sometimes they could not raise an animals system do what they would. If they put in tonics, these acted as irritants, but if first of all some stimulant were given, either in the form of port wine, or whiskey or something of that sort, dilatation of the vessels ensued and so nutrition was produced. Alcohol would wake up the system and catch it up, it would bring about a stimulation which they would fail to do in any other way. They often found for instance a horse in an exhausted condition. They might fill his stomach with beans and oats, which would remain undigested unless they gave a stimulant. Often an animal refused to feed at all but he was, by the aid of stimulants, able at once to go into his crib; then they would have a flow of saliva and pepsin and healthy digestion would come on. Thus the system was rebuilt for further work.

The essayist had laid great stress on the action of alcohol on the red and white corpuscles, and said that it prevented the entrance of disease germs into the system. Dr. Fraser had said that in Bombay the mortality among the non-drinking patients was 95 per cent., whereas among drinkers it was only 20 per cent., and the same was even found to be the case in Glasgow. He (Mr. Penhale) took exception to the statement that the skin of the dog yielded back thorough exhalation. [The essayist, interposing, said he thought he had been misunderstood. Through induration of the skin of the dog made drunk alcohol was found; he did not intend to convey the impression that it was all got back.] Mr. Penhale said even then it must have been traced to alcohol. They knew that the dog's skin exhaled remarkably little, and that there would be a very small yield of alcohol. Drinkers' hearts were often found surrounded by fat, but the mere fact that a heart was surrounded by masses of fat was a different thing from fatty degeneration itself.

He thought the essayist had given them a valuable paper as to the mischief of extreme alcoholism, but of the use of alcohol in moderate stimulating doses he had not dealt with very largely. If used in moderation alcohol, in the hands of a skilled person, was valuable. The essayist condemned the wholesale use of it in a general way. Of course it must be entirely wrong to give horses or cows doses of whiskey which might be quite unsuited to the disease. In many cases which he (the speaker) treated, especially among farmers, the animals had been generally doctored with something before he arrived, and he would prefer to have them dosed with whiskey rather than with the many numerous concoctions sometimes given. These latter sometimes caused death which would have been saved by a stimulating dose of alcohol.—(App.)

Mr. Bond thanked Mr. Brown for his interesting paper, he had come up from Plymouth on purpose to hear it, and to a great extent he agreed with him. He (the speaker) was not a great believer in alcohol as a medicine, and he supposed the alcohol he used in his practice in a year was not more than a gallon. He had not used sweet spirits of nitre in his practice for about nine years. But that was an article of drug used by nearly every veterinary surgeon and, doubtless, it was used for its property of alcohol, and yet no chemist or doctor was able to say what sweet spirits of nitre were. The stimulant he used was spirit of ammonia distilled, leaving out the essential oils. It was clearer and did not go cloudy. In cases of lung disease he did not believe in continuing with alcohol and he did not do it. It might increase digestion or it might not. Ever since he had been in practice he had never personally taken alcoholic beverage with his food, and he did not suffer from indigestion. The beverage he had always on his table for himself was cold tea. (Laughter.) He used to use when in practice as a chemist from 350 to 400 gallons of alcohol a week for eight years. It was used as a vehicle for drugs of almost every imaginable description. In his opinion they, as veterinary surgeons, gave doses far too large. Cases of death had occurred where bot-

tles of spirits had been poured down. [The President: Gone the wrong way. (Laughter.)] Mr. Bond: Perhaps so. Proceeding, he said he had found alcohol of benefit in recovering from influenza. Whether it was owing to the fact that it helped the patient to sleep he did not know, but it certainly seemed to help to a little better recovery if not carried too far. He thought the paper had been rather too much in the nature of a temperance lecture, and he should have preferred the essayist to have gone more into the therapeutic effects of alcohol. At Plymouth men gave horses beer and porter after a journey, but he could not say that they got worse than other horses. The animals lasted just about as long and looked as well. It was a question whether alcohol was a food or not.

Mr. ASCOTT said that while he thanked Mr. Brown for his paper he must confess that he was more in sympathy with the remarks of the opener of the discussion. With the greater part of Mr. Brown's paper they all sympathised. Large doses of alcohol were injurious to man and beast. As a rule the doses were far too large. Cows stood large doses better perhaps than the horse. He agreed with Mr. Penhale that small doses used medicinally were, in many cases, beneficial. Of this he had had a personal experience. A man over 70 years of age whom he knew was lying near unto death, and if it had not been for small doses of brandy he felt quite satisfied that he must have died. The brandy had a stimulating effect on the heart, and after a dose it was wonderful how the heart steadied. Mr. Bond and Mr. Brown, although agreeing in many points, disagreed on one. Mr. Brown appeared to convict alcohol with tea, while Mr. Bond was in favour of tea.

Mr. BOND (interposing): I only speak of my own experience.

Mr. ASCOTT said although the experiments referred to by Mr. Brown had given such results in regard to the stomach, yet they might not represent such an unhealthy condition as he supposed. Man continued to live as long now as he used to. He certainly should be sorry to think that alcohol in small doses was not a beneficial medicine. He knew of cases where evidently an aid to digestion was derived from having a little whiskey or brandy and water with the meals, but different people had different stomachs, and he knew other people whose powers of digestion were hindered by stimulants.

Mr. DOWN said he knew alcohol had a prejudicial effect on people and animals if given in large quantities, but if given in small quantities he thought it acted beneficially. He had to attend a horse some time ago suffering from pneumonia. It was ill for three days, and he suggested further advice. The second opinion suggested a stimulant every three hours in small quantities. Just prior to that the temperature had gone down nearly three degrees. Next day the horse was better and eventually recovered, but he told the owner that he did not think the animal would live a great while. Three months later it was again taken ill, and as the former recovery was attributed to stimulants, he (Mr. Down), commenced with stimulants, and also suggested having another consultation, but the owner would not hear of it, and the animal died. He (the Speaker) should like to know whether the stimulant was the cause of the cure itself, or was the disease on the turn before the second opinion was had? Unlike Mr. Bond, he could not take tea with his dinner. He had not ventured on whiskey, but had found that warm water was the best thing he could take with his meals.

Mr. GILLAM, said he went a long way with Mr. Brown. Personally he prescribed a little, but not much, alcohol in drugs. A short time ago a medical man suggested to him that if veterinary surgeons, instead of trying so much spirits were to try other stimulants, such as tea and coffee, especially in cases of coma, the result would be more satisfactory. Last summer in a case of sunstroke, he tried coffee and the effect was wonderful, and he thought this beverage might be applied more in their drugs. Mr. Bond had mentioned spirits of nitrous ether, but there was a preparation without the alcohol—an elixir of nitrous ether.

Mr. BOND: What I said was that I did not know the exact composition of sweet spirits of nitre.

The PRESIDENT said he agreed with Mr. Penhale, that Mr. Brown had treated the subject solely from the point of view of the excessive use of alcohol, and not of its use as a medicine for animals. Personally, he used alcohol largely, and he found it to be of great benefit in fnfluenza, and after cases of pleurisy where the animals had been very low. When they would drink milk readily, a little stimulant with it seemed to pick them up and get them along very much faster. It increased the circulation. If the stimulant was given in excessive doses, it was apt to be prejudicial and injurious in its effect. In regard to spirits of ether nit., he used that drug more extensively than any other in his surgery, and he found great benefit from it, especially in cases of fever. He used it sometimes with alcohol. He could not understand not suffering from indigestion after drinking a lot of tea, for he had always been told that the effect of tea was to produce a leathery constituent in the stomach. He thought that a little stimulant after dinner and supper, would considerably help to digest the food. Professor Frazer had emphatically stated that it aided digestion, for it produced an extra flow of saliva and gastric juice. The professor was a good authority and had excellent reason for giving his opinion so emphatically.

Mr. BROWN replying to the discussion, said that the paper had been criticised on the ground that it had been rather in the nature of a teetotal lecture. He tried to avoid making it so, but it was extremely difficult, because, after all, the results of using any drug could not be gauged except by its ultimate effect, and it was only by going to the drunkard that they could find the ultimate effect of alcohol. He did not desire to try and push teetotal doctrines. He felt the difficulty of bringing the matter before them unless he made use of the extreme effect of alcoholic poisons. The extreme effect of alcoholic poisoning was given by excessive use, but the effect of alcoholic poisons gradually progressed from small doses. When a man took a small dose he got so far on the way to alcoholic poisoning, and the progressive action ultimately resulted in death. If his remarks seemed to dwell too much upon the action on the human being, his excuse was, that this was the only object lesson he could really give them. It was the quantity which veterinary surgeons gave their patients that he protested against. He contended that they poured it down their throats continually without knowing what it was going to do, or what effect they wished to produce. It had become with them a custom without due regard to its scientific effect.

Speaking of diseases that would be helped by alcohol, Mr. Brown admitted that in the case of a dying man, it would stimulate the heart to action, and certainly if there was a case in which the drug ought to be used, it was such a one as that mentioned by Mr. Ascott, but he had known cases in which hot water had been used in small quantities, and the same effect had been produced as with alcoholic stimulants. If he had time he should have dwelt more on the therapeutic action. Alcohol was a benefit sometimes in sweating dens, where consumption was rampant. In the old sweating days, when men used to sit amidst absolutely unsanitary conditions, it was found that the old stagers who were soaked in alcohol had powers of resistance which the younger ones had not. As a rule the younger ones succumbed and the heavy drinkers lived. The explanation was that the steeping of the tissues in alcohol preserved them to a certain extent, and that fact was important, notwithstanding the other deleterious conditions

which alcohol had. Preservation of the tissues by alcohol explained the fact that in certain diseases such as typhoid and consumption, the body had the power of resistance which it did not otherwise possess. He must join issue with those who said that alcohol helped digestion, because the action of alcohol was absolutely prejudicial to pepsin. It precipitated it, and although they got an extreme flow of gastric juice and pepsin, yet he believed it was all less powerful in its quality, and that entirely nullified it. Tea retarded digestion and did not accelerate it. In a case of milk fever, after using the treatment now so much in vogue, he found considerable prostration resulting. He resorted to alcohol which brought the cow round to a certain extent, but heart failure set in, and alcohol absolutely failed to have the desired effect. He had another case of acute diarrhœa and heart failure. He thought first whether he would use alcohol, but he decided to go on the gruel system, and every hour he gave a small dose of gruel with eggs beaten up in it, absolutely discarding alcohol. The cow got over it, and the fair inference was that he was just as successful as if he had used alcohol. He agreed with Mr. Penhale as to the temporary action of alcohol in the case of a tired horse. It would whip up a tired horse and it was fair treatment.

On the motion of Mr. Penhale, seconded by Mr. Bond, a vote of thanks was given Mr. Brown for his paper; and on the motion of Mr. Bond, seconded by Mr. Brown, the President was thanked for Presiding and the meeting terminated. Tea was afterwards partaken of at the hotel. The next meeting will be held at Exeter on Thursday, November 21st.

CENTRAL VETERINARY MEDICAL SOCIETY.

Meeting held at 10 Red Lion Square, W.C., on Thursday, July 4th, 1901, at 7 p.m. Mr. Sydney H. Slocock, president, in the chair. There were present Messrs. A. L. Butters, W. Roots, F. G. Samson, W. L. Harrison, S. L. Stephens, W. H. James, H. A. Woodruff, S. H. Nye, H. A. McCormack, W. Perryman, W. Caudwell, P. W. D. Smith, J. K. Bruce, W. Macdonald, A. Rogerson, J. S. Hurndall, W. Hunting, H. King, J. Rowe, F. Mosedale, E. Lionel Stroud, hon. sec., and three visitors.

The minutes of the previous meeting were taken as read and confirmed.

The Secretary read letters of regret from Mr. Prudames and Mr. Reekie.

Nominations and Elections.

The following gentlemen were nominated as Fellows of the Society: Mr. George Rugg, M.R.C.V.S., Chiswick; Mr. Alex. E. Bailey, 9, Fulham Park Gardens.

The following gentlemen were unanimously elected Fellows:—Mr. David Dudgeon, M.R.C.V.S., Worship Street, E.C.; Mr. Richard Foreman, M.R.C.V.S., Worship Street, E.C; Mr. Arthur Routledge, M.R.C.V.S., Well Street, Hackney.

The Chairman said he had to announce that the Council had decided to entertain the veterinary delegates to the British Congress on Tuberculosis to a dinner. The dinner would be held at the Holborn Restaurant on Wednesday, July 24th, at 7.15 for 7.45. The Entertainment Committee recommended to the Council that £25 should be granted by the Society towards that entertainment, and the Council had voted that sum. The tickets for the dinner would be 7s. 6d. each, and he hoped Fellows of the Society would make an effort to attend that dinner, and give a cordial welcome to the delegates. A circular would be issued to all members inviting their co-operation.

"THE ACTION OF MALLEIN."

Resumed Discussion on Mr. R. Porch's Paper.

Mr. Samson said he did not know much about the use of mallein, but he thought the thanks of the Society were due to Mr. Porch for the very able way in which he had laid the action of mallein before the Society. They had not all had the exceptional opportunities to use the substance which Mr. Porch had had, and therefore he would like to ask if there was any time more suitable than another for carrying out the injection, and if so, what time it was. He would not be inclined to do it after the horse had returned from work, but would prefer for the animal to have a day's rest first. Had Mr. Porch ever made post-mortems on horses after they had ceased to react after two or three injections, and had he found symptoms indicative of glanders in those cases? He would also like to know when and where it had been decisively proved that the use of mallein did not or could not produce glanders in a healthy horse. The general public required instruction on the use and effects of mallein. Only a few weeks ago he had a case of glanders and advised that the horse should be killed. It was a very plain case, and a post-mortem proved it to be very strongly affected. The horse was in the country, but belonged to a firm in London, which owned horses travelling to and fro. He advised that every horse owned by that firm should be tested with mallein, but that was objected to, firstly because of the bother and expense. He replied pointing out what it might cost them by the loss of stock if it were not done, and they then said they believed the inoculation with mallein would probably produce glanders. He could not then speak positively, but he told the firm that he had never heard of such a case, though he could not prove that that event could not happen. He would be very glad of Mr. Porch's statement on the point. He thought the thanks of the British horse-owning public were due to the veterinary profession for the strides they had made in showing which animals were affected by glanders or farcy. In the olden days—and not many years ago—horses were kept about for weeks and months, and inspections took place, sometimes daily, sometimes two or three times a week, and he had often wondered that many more cases of the disease in the human subject had not occurred. Veterinary surgeons had to pull 20 or 30 suspected horses about during a week, including opening the nostrils, and they dare not in those days condemn a horse unless one or two large ulcers could be seen.

They all had an opportunity of seeing the bright side of the injection of mallein, but there was another aspect which he would like to bring forward. Horses in a suspected stud were injected, and the bad ones which could not be brought before the public were killed and got out of the way. But what became of the rest of the stud? They were put on the market. He would like to see some means adopted by which the Government would stop that possibility. More cases of glanders in London and neighbourhood were now met with than formerly, and he had no doubt there were more centres of infection. He thought a great cause was horses being thrown on the market which had answered to mallein. Of course if a man had 20 or 30 horses it was very hard if he was obliged to have them killed, for there was no compensation. If a compensation clause could be brought out by the Government covering such losses he believed the effect would be to stop the offering of such horses at public auction.

Mr. Butters said he considered Mr. Porch's paper a valuable addition to our knowledge as to the action of mallein. Seing the importance of the subject and the length of time it had been before the profession, the literature on the subject was very scanty, and perhaps the reason was not very far to seek. Mr. Porch's method

of dealing with the matter by propounding a number of queries might have its advantages, but seeing that most of them could be answered in the negative or affirmative the course was not the most favourable for discussion. He did not propose to take up each query, but would make a few remarks.

He agreed with Mr. Porch's remark that mallein did not produce glanders in the healthy horse. Those who had even a superficial knowledge of the manner in which mallein was prepared knew that, theoretically, it could not produce glanders. The fact that a great number of healthy horses had been tested without a single one having developed the disease was a sufficiently practical proof that glanders could not be produced by mallein. Indeed its harmlessness to healthy horses was one of the strong recommendations for its use.

Some of Mr. Porch's queries bore upon upon comparatively recent statements as to the curative effect of mallein on horses affected with glanders. When he (Mr. Butters) began to use mallein he had a leaning towards the view that it had a curative effect in such cases; certainly it did not aggravate the symptoms in a glandered horse, but in some cases was beneficial. If there was a case of glanders in a stud, that horse was destroyed and the whole of the remainder were injected. Some of those horses reacted, but after the first effects of the reaction passed away the animals improved in condition, their coats began to look glossy, and probably the horses looked fatter and plumper. If they were tested again the reaction was not so great, and by and-bye it ceased altogether. Any one with just that amount of experience might very reasonably conclude that the mallein had cured the other horses. But the experience of different observers varied, and consequently so did their opinions on the action of mallein; and he thought there was reasonable ground for such difference of opinion. Further experience, however, led one to the view that the beneficial action of the injection beyond that of diagnosis, was almost *nil*. He thought there could be no doubt that in former times a number of animals glandered did spontaneously recover. For instance, in the old time there was a case of glanders in a stud, and the horse was destroyed. The others were perhaps placed under better hygienic conditions, put upon on improved dietary, their work was eased, and they did not develop the disease. He thought if they could have tested the matter in those days they would have found that the animals had spontaneously recovered from the disease as they did now. When they had cases where a horse had been injected with mallein and afterwards developed the clinical symptoms of glanders it showed that the mallein had failed to check or even arrest the progress of the disease. Not long ago there were cases of farcy which recovered, *i.e.*, the ulcers in the limbs healed up and the animals became apparently healthy, some of them continuing to work for years. Cases of glanders were probably quite as much cured before the era of mallein as now.

The conclusion he had come to was that mallein was a most excellent diagnostic—and almost infallibly so—for glanders, but its curative action was *nil*. Though he did not look upon a horse as a centre of infection because it reacted to mallein, if it did not show the clinical signs of the disease, still he considered it a dangerous animal, and one which should be watched. If it ceased to react to mallein he did not think the mallein had anything to do with its cure. He believed there was reinfection. Mallein had developed that stage of the disease which was only guessed at before, but had not been previously known. It was known that there was an incubation stage, but there was no knowledge as to how long it lasted. He had not had time to study Mr. Porch's paper nor to say as much as he had intended, but he felt grateful to that gentleman for bringing the subject forward. It was a matter of national importance, and he thought some definite opinions should be expressed by members of the profession, and the results more generally known.

Mr. ROOTS said he understood Mr. Hunting to say at the last meeting that he had not known a case in which a horse reacted to mallein where the lungs did not, post-mortem, show the disease. Three years ago he tested a six-year-old twice. The first time the temperature was 101·3°, and the next day it rose to 104·2°; there was a swelling measuring 9 in. by 7 in. That was in going through a stud. The next time the temperature was 101·1°, and it rose to 105·1°, and the swelling was 8 in. by 5 in. Post-mortem, no tubercles were found in the lungs.

Mr. HUNTING: Who searched?

Mr. ROOTS: Mr. Humphrey and he searched, and the lungs were sent to Professor M'Fadyean, who said there could be no doubt the animal was glandered, but it had not been so sufficiently long for tubercles to form in the lungs. The poison was in the blood.

With regard to the injection of mallein producing glanders in a healthy horse, he tested the same stud three years ago, when there were thirty horses which did not respond. There was an outbreak three years ago in a horse which had been in the stud twelve months. When that occurred, the firm said they would like the stud to be re-tested. Only two of that number responded, and the other 28 were declared free again this year.

He would be glad to know whether Mr. Hunting said the continued injection of mallein produced less swelling but did not alter the temperature.

Mr. HUNTING: I said that the reduction in the size of the swelling was out of proportion to the reduction of temperature. An animal with a 6-inch swelling might practically show no reduction of temperature, and one with a temperature of 103 or 104 might have no swelling.

Mr. ROOTS said that was what he understood Mr. Hunting to say. He, Mr. Roots, had a record of seven cases showing just the opposite. A horse was injected in January; commencing temperature 100·4°, rising to 103·4°, swelling 5in. by 4in. Re-tested May, temperature 101°, rising after the test to 102·1°, swelling 4½in. by 4½in. Re-tested June, 101·1°, rose to 100·3°, showing a reduction at every testing. Swelling 5½in. by 3½in.

Another horse in the same stud was tested in January. Original temperature 100·2°, rose to 101°, swelling 3½in. by 2½in. Re-tested May. Temperature 100·1°, after testing 101°. Swelling 2½in. by 2in. Re-tested June, 100·3°, at which it remained. Swelling, 3½in. by 2½in.

Another horse tested February. Original temperature 101·3°, rose to 103·1°. Swelling 2½in. by 2in. Re-tested in May, 101·3°, rose to 102·1°. Swelling 8in. by 2in. Re-tested June, temperature 101, rose to 101·1°. Swelling 9in. by 5in.

Another horse tested in January, temperature 100°, rose to 103°. Swelling 4in. by 2½in. Re-tested May, temperature 100·2°, rose to 102·4°, swelling 3½in. by 2in. Re-tested June. 101·1°, rose to 101·2°, swelling 4½in. by 4in.

Another horse tested February. 101·3°, temperature rose to 104·1°. Swelling 3in. by 1½in. Re-tested a week afterwards. Temperature 101°, rose to 103·3°. Swelling 2in. by 1½in. Re-tested in March, temperature 101°, at which it remained. Swelling 3½in. by 2½in. Tested again . . . . temperature 102°, when it had just come in from a journey. It went down to 100·3°. Swelling 2½in. by 1½in

Another horse tested in March, temperature 102·4, rose to 103·4°. Swelling 5½in. by 4½in. Re-tested May, temperature 101·1°, rose to 102°. Swelling 2½in. by 2½in. June testing, temperature 101, reduced to 100·1. Swelling 5in. by 4in.

Those testings gave a result opposite to that mentioned by Mr. Hunting last month. It was strange

how the temperature of the animals rose and fell when testing at different times, and it would vary at each testing in the same animal. He was testing some of the animals which had responded, to see what the result of the continued testing would be, and to see whether mallein had or had not a curative effect.

The CHAIRMAN asked whether they had been proved to be glandered horses.

Mr. ROOTS replied that they had been tested three years ago, and then responded to mallein.

Mr. DUNCAN HUTCHEON said he was only present as a listener, but the subject was one of great interest to him, and he feared veterinary surgeons would have much to do with it after the South African trouble had been terminated. He had a leaning to the opinion that if the mallein test was applied in the very early stages of glanders it exercised some curative effect. But much more investigation was required before that could be definitely established. One had seen many cases which gave a reaction to the mallein test, and again on being re-tested, but on the animals being killed the post-mortem pathological changes were found to be much slighter than one would expect. For that reason he looked upon mallein as having some curative effect. On the other hand, where the disease was well established animals would react at seven or eight different testings, and developed the active and severe symptoms of glanders afterwards. Certainly he was of opinion that the application of mallein in early stages had a curative effect, or at any rate tended to arrest the progress of the disease.

Professor WOODRUFFE said he would offer a few remarks on the statements which had been made as to the curability of glanders, and the presence, post-mortem, of lesions when the animal had ceased to react.

With regard to the curability of glanders he thought two experiments—in the one case by M. Nocard on French cavalry horses, and in the other case by Professor M'Fadyean—were very interesting. Nocard inoculated all the French cavalry horses, and those which reacted were isolated, and were subjected to experiments by him with continued inoculations of mallein. In many cases he found that the animals recovered, but in no case did he attribute the recovery to the action of the mallein, but rather to the spontaneous recovery on the part of the animal, for the reason that other horses which were tested only once recovered equally well without further inoculation.

With regard to the lesions on post-mortem examination, he found on killing several horses which had ceased to react to mallein after ten or twelve inoculations that there were present, as was to be expected tubercles in the lungs, but that those tubercles were in most cases, calcified. On mashing them up with sterilized water, and inoculating guinea pigs with the substance, in no case did the guinea pig react or become the subject of glanders. The experiment conducted by Professor M'Fadyean was on a brown mare which reacted strongly to the mallein test on two or three occasions. He then proceeded to inject 100 c.c. of mallein once a week for a considerable time. After numerous injections the mare was killed, and was found to be very strongly glandered, and on injecting the tubercles into guinea pigs they were found to be very virulent, and the guinea pigs all died of glanders. So that both experimenters found mallein to have no curative effect. It had also been shown that the animal could recover from glanders spontaneously.

Mr. HARVEY said, as a visitor, and one who had, perhaps, had the last case of glanders, namely about a week previously, he would like to say a word. He had a black mare which looked a suspicious case, but he did not feel certain it had glanders because there was no visible discharge, at any rate continous. Yet when the animal blew its nose a discharge came down. It had a swelling on the inner hind leg, just under the process of the ileum, which, if it had been near a joint, would have been called a bursal enlargement, as fluid was present. He passed in a trochar and cannula, and emptied the part of 15ozs. of straw-coloured fluid. When he carefully examined the animal he found a swelling under the jaw. The temperature varied up and down for three days, from 100·2 to 104. The owner of the horse said his brother had glanders in his stable, and asked whether he, Mr. Harvey, was sure the disease was not that. He was also asked whether its teeth were sharp, as it would not eat its food. He got his hand cut by the teeth, and when the owner mentioned the possibility of glanders he (Mr. Harvey) felt unhappy. He asked further advice, and the mare was tested. The temperature at the time of testing was 102, but it had been variable. It went as high as 105. The swelling measured 10½in. by 8in., and the animal was killed. There were six other animals, and they were tested. Three gave no local reaction nor temperature, but the others showed a reaction with temperature. The size of the swelling in one increased, and if one simply put one's hand up, she shrank. In the other two there was no reaction at the seat of inoculation and yet the temperature increased to 104·2 and 105 respectively, but dropped again within 48 hours. He would be very glad to hear what was the period of inoculation, and how he would be likely to stand at the end of three months.

(To be continued.)

DEATH OF A VETERINARY SURGEON.

INQUEST AT HASTINGS.

At the Market Hall, George Street, Hastings, on Saturday evening, Mr. Davenport Jones, coroner, held an inquiry into the circumstances attending the death of Ernest William Anderton, age 30, an assistant to Mr. H. Jarvis, veterinary surgeon, of 6, Station Road, Bexhill, who was found in a dying condition on the beach at Hastings on Thursday.

Frederick Anderton, who said he resided in Yorkshire, identified the body the jury had just viewed as that of his brother, who was thirty years of age. The deceased was a veterinary surgeon, and had been in the employ of Mr. Jarvis in the Station Road, Bexhill. Witness last saw deceased alive about six weeks ago. He (witness) had received a telegram notifying him of the death.

P. C. Dibley said he was a constable in the Hastings Police Force. He was on duty at the Parade Station on the 8th, and at about 10 a.m. received a report that there was a man on the beach who had taken poison. Witness went down to the beach, and there found the deceased some twenty yards off the road by the Dolphin window at Rock-a-Nore. Deceased was lying down on his left side, with his hand underneath his head. He found by his feet a bottle marked "poison." Witness at once summoned medical assistance. Witness gave deceased an emetic, but he did not vomit. The doctor arrived, and at once left to go to a druggist's, but the man died before the doctor returned. The body was afterwards conveyed to the mortuary

Mr. H. G. Shorter, police surgeon, of Hastings Borough, said that on Thursday he received information that a man was on the beach, having taken poison. On going down, witness found him in a critical condition. Witness noticed the smell of prussic acid, and the constable produced a bottle and showed it to him. Witness immediately rushed off to a chemist and brought back an antidote, which might have done good in the earliest stage. Witness had not been gone three minutes but the man was dead on his return. Witness had made a post-mortem examination on Friday and found that both lungs were diseased, especially the right lung. The liver was also greatly enlarged, and the stomach and intestines

contained no food whatever—only fluid. The stomach smelt strongly of prussic acid. In his opinion the cause of death was the strong dose of poison the deceased had taken. If was sufficient to kill fifty people. He had taken a very large quantity. Deceased showed evidence of being a very intemperate man, and must have suffered a good deal. At times he would not be himself, as it were. Witness found sufficient cause for death without going further into the post-mortem.

Mr. Henry Jarvis, veterinary surgeon, of St. Leonards and Bexhill, said that the deceased was in his employ at Bexhill. Witness last saw him on Thursday morning at Bexhill. He then appeared strange in his manner, and the day before he did not seem to recognise anything that was said to him. Witness could not get a distinct answer from him, and thought he wanted looking after and wrote to his father. Deceased had been strange all the time he had been in his employ. He had received a letter from deceased in reference to not seeing witness, saying that the reason he had not done so was that he had gone to tea. Witness felt that deceased was not right from the time he came into his employ, which was on the Monday week previous.

The Coroner, in summing-up, said that in that case there was no doubt whatever that the deceased came by his death by his having an intention to destroy himself. It was for the jury to say whether at the time he took the poison he was in his right mind or not. They had the evidence of Mr. Jarvis that during the time he employed deceased he was strange, so much so, that he suspended him, and wrote to his father. Having regard to these facts, he (the Coroner) thought there was sufficient to show that deceased was not in his right mind.

The jury immediately returned a verdict that deceased committed suicide by taking prussic acid, but that he was insane at the time of the act

POISONED BY MISADVENTURE.

Dr. Waldo, coroner for the City of London and Southwark, was notified on August 27th of the sudden death of Mr. W. Ogilvie, M.R.C.V.S., which occurred shortly after midnight at Montague Street, Borough.

Mr. Ogilvie, who was a native of Edinburgh, and who was only 28 years of age, had been engaged for two years as a leading assistant to Messrs. F. T. Stanley and Son, of Montague Street, an old established firm of veterinary surgeons in South London.

So far as can be ascertained at present, Mr. Ogilvie, who lived in Merrick Square, S.E., called about midnight at the surgery in Montague Street, and was admitted by the caretaker, who lives on the premises.

Mr. Ogilvie, proceeded, it is thought, to make himself up a simple draught for a slight complaint from which he had lately been suffering, but in about a minute after his arrival the caretaker heard a call as though something was wrong.

Hurrying to the surgery he found Mr. Ogilvie gasping for breath and unable to speak. There was a bottle of prussic acid in his hand, which he held out to the caretaker, and then fell to the floor and expired.

It is believed that in an imperfect light, and trusting to his familiar knowledge of the surgery, Mr. Ogilvie took the prussic acid in mistake for the drug he desired for his ailment.—*The Evening News.*

SQUAIR.—On August 16th, at Seville House, Reigate, the wife of Charles A. Squair, of a daughter.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED.—Messrs. F. C. Mason, C. W. Abrams, G. H. Livesey, C. A. Squair, R. L. Green. Lt.-Col. Nunn. "More Disgusted."

"*Everyday Ailments of and Accidents to the Dog*," by F. T. Barton.

CORRESPONDENCE.

THE PRESIDENTSHIP OF THE R.C.V.S.

Sir,

How is the President of the R.C.V.S. selected? Is it on the principle of giving every man of the Council his turn? Of what I have seen of most of our Presidents the last ten or twelve years I do not think it can be well said that he is selected on any other standing. Years ago the majority of men holding this position were selected on the ground of fitness from a professional point of view, and many were elected more than once and some several times, but in consequence of jealousy or some other reason it now seems to be on the "take your turn" kind of system.

In my humble opinion the man for such a post should be one who takes not only an active part in the elevation of the profession before the eyes of the public and various influential authorities, but also should be one who has a good social standing with men of influence and who would tactfully use his position not for his own personal aggrandisement but for the good of the whole.

We do not want a weak-kneed nonentity but one having plenty of energy to strike out and lead the body corporate, and consequently the rank and file, up to a higher standard. An able man should be re-elected more than once, in fact he should be elected as long as he was of service to the profession.

I do not blame those gentlemen who are unfitted by nature etc., sitting as presidents. I pity them. The fault is not theirs. It is their fellow councilmen who err in placing them in such an awkward position. The view that every man should have his turn has a sense of fairness about it, but is it business? Is the R.C.V.S. to have at its head the best men or only those who have been on the Council for some years.—SUMMUM BONUM.

AMATEUR SURGERY.

Sir,

Mr. W. M. Scott's article entitled "An Observation from Amateur Surgery," in your issue of August 17th.

Mr. Scott's conclusions re comparative non-susceptibility of sheep to traumatic peritonitis and shock would also apparently extend to pleurisy, as the following case will show.

As long ago as March 21st of last year I was asked to look at a ewe (recently lambed), which had been horned in the chest by a cow. I found a wound about two inches in diameter and nearly circular, situated about four inches behind the shoulder and nearly eqi-distant from spinal column and sternum, through which the air was passing with every movement of the chest. I found that two of the ribs were smashed, and I removed several splinters.

The lung had sustained no injury, but had collapsed from atmospheric pressure and was covered with a layer of purulent matter, due to pleurisy, etc.

The injury had been sustained about a week before, the only treatment the animal had received was to have the wool tied over the hole and a piece of dirty sacking tied around the chest, consequently the wound was in a filthy condition. This however, did not seem to affect the animal very much, as she was feeding well and suckling her lamb alright.

I removed the wool for some distance around the wound, syringed out the chest and applied an antiseptic pad over the hole, kept in place by a bandage. This treatment was persisted in for some little time, the hole gradually closing. The ewe was put to ram again but turned out to be barren.

As far as I knew the animal had made a complete recovery, except that I thought it very improbable that the collapsed lung would ever expand again, at any rate fully, but I was surprised to notice, on seeing her exposed for sale in an auction to day, that a small hole,

about as big as a sixpence, still existed in her side, and through this air was passing with every respiration. The animal had maintained a fair condition but could not be got to fatten.

Considering this hole had existed for 17 months and the constant irritation the air must have exerted on the pleura, it would be interesting to know the condition of that membrane. I don't know whether you will find this interesting enough to publish.—Yours truly,

Langport. HERBERT E. WHITEMORE.

PRACTICE IN U.S.A.

Sir,

Would any of your readers kindly let the writer know if one can practice in U S. America with a British diploma; if so, perhaps one that has had experience of the country would give some particulars of the *modus operandi* of a veterinary practice there.—Yours truly,

"TYRO."

Veterinary Societies—Addresses.

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BORDER COUNTIES V.M.S.
Pres: Mr. W. C. Croudace, M.R.C.V.S., Haltwhistle
Hon. Sec. & Treas: Mr. H. Thompson, M.R.C.V.S., Aspatria
Meetings, Second Friday of Feb., June, and October

CALCUTTA V.M.A.
Pres: Mr. Greenhill, M.R.C.V.S.
Hon. Sec: Mr. T. Assheton Smith, 156 Dhurrumtollah

CENTRAL V.M.S.
Pres. Mr. Sydney H. Slocock, F.R.C.V.S., Hounslow
Hon. Sec: Mr. E. Lionel Stroud, M.R.C.V.S.,
29 Spring-st., Hyde Park, W.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

CENTRAL V.A. OF IRELAND.
Pres. Mr. W. A. Byrne, M.R.C.V.S., Roscommon
Hon. Sec: Mr. J. J. Vahey, M.R.C.V.S., Ballinrobe
Treas: Mr. J. F. Healey, M.R.C.V.S., Midleton

EASTERN COUNTIES V.M.A.
Pres: Mr. Sidney Smith, M.R.C.V.S., High-st, Lowestoft
Hon. Sec.: Mr. F. B. O. Taylor, M.R.C.V.S.
Weston Longville, Norwich
Meetings, Second Tuesday, Feb. and July

GLASGOW V.M.S.
Pres. Principal McCall.
Hon. Sec. Mr. John P. Small.

VET. MED. ASSN. OF IRELAND.
Pres: Mr. M. Hedley, F.R.C.V.S.
Privy Council Office, Dublin Castle
Hon. Sec. Mr. J. McKenny, M.R.C.V.S.
116 Stephens-green-west, Dublin

LANCASHIRE V.M.A.
Pres: Mr. Jos. Abson, F.R.C.V.S., Norfolk-st, Sheffield
Hon. Sec: Mr. Harry Locke, M.R.C.V.S.
Grosvenor Street, Oxford Street., Manchester
Meetings, 1st Thursday in April, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.
Pres. Mr. R. W. Clarke, M.R.C.V.S., Wragby
Hon. Sec: Mr. T. Turner, M.R.C.V.S., Sleaford
Treas: Mr. E. C. Russell, M.R.C.V.S., Grantham
Meetings, Second Thursday, Feb., June and October

MIDLAND COUNTIES V.M.A.
Pres: Mr. John Blakeway, F.R.C.V.S., Birmingham
Hon. Sec: Mr. H. J. Dawes, F.R.C.V.S.,
Camden House, High St., West Bromwich
Meetings, Second Tuesday, Wednesday, Thursday, and Friday alternately in Feb., May, Aug. and Nov.

NATIONAL VET. ASSOCIATION.
Pres: Prof. J. F. M'Fadyean, M.R.C.V.S., R.V. Coll. London
Sec: Mr. William Hunting, F.R.C.V.S.
Treas: Mr. F. W. Wragg, F.R.C.V.S., Whitechapel, London.

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.
Pres: Mr. Geo. Morgan, F.R.C.V.S., 95 Stanhope-st. Liverpool
Treas: Mr. E. Faulkner, F.R.C.V.S., Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S.
Grosvenor Street, Oxford-st., Manchester

NEW SOUTH WALES V.M.A.
Pres; Mr. John Stewart, H. AND A.S.
Vice: Mr. John Pottie, H. and A.S.
Hon. Sec. & Treas: Mr. J. D. Stewart, M.R.C.V.S.

NORTH OF ENGLAND V.M.A.
Pres: Mr. G. R. Dudgeon, M.R.C.V.S., Sunderland
Hon Sec: Mr. H. S. Elphick, M.R.C.V.S.
Newgate-street, Newcastle-on-Tyne
Meetings, Third Friday, Feb., May, Aug. and Nov.

NORTH OF SCOTLAND V.M.S.
Pres: Mr. J. McLauchlan Young, F.R.C.V.S., Univ. Aberdeen
Sec. & Treas: Mr. Clement Baxter, M.R.C.V.S., Elgin

NORTH WALES V.M.A.
Pres: W. Wynne Williams, M.R.C.V.S., Dolgelly
Hon. Sec. O. Trevor Williams, M.R.C.V.S., Llangefni
Meetings, First Tuesday, March and September

ONTARIO V.A.
Pres: Mr. G. L. Robson.
Sec: C. H. Sweetapple, Toronto.

ROYAL COUNTIES V.M.A.
Pres: Mr. G. E. King, M.R.C.V.S., Abingdon
Hon. Sec: Mr. E. P. Owen, M.R.C.V.S., 98 High-st. Thame
Meetings, Last Friday, Feb., June and Nov.

ROYAL SCOTTISH V.S.
Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.
Hon. Sec: Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

ROYAL VETERINARY COLLEGE M.A.
Pres: Prof. Woodruff
Hon. Sec: Mr. F. E. Mason, M.R.C.V.S., R. V. Coll.
Assist. H.S. Mr. W. H. Chase, R.V.C., Camden Town, N.W.

SCOTTISH METROPOLITAN V.M.S.
Pres: Mr. John Storie, M.R.C.V.S., East Linton
Hon. Sec: Mr. John Aitken, Junr., M.R.C.V.S., Dalkeith

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.
Pres.: Mr. G. E. Gibson, M.R.C.V.S., Sedgefield, Ferryhill
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June, Sept. and Dec.

SOUTHERN COUNTIES V.M.S.
Pres: Mr. C. F. Hulford, M.R.C.V.S, Haslemere, Surrey
Hon. Sec: Mr. C. Pack, M.R.C.V.S., Lymington, Hants
Meetings, Last Thursday, Mar., June and Sept.

SOUTH WALES AND MONMOUTHSHIRE V.M.A.
Pres: Mr. E. Sayer, M.R.C.V.S., Newport, Mon.
Hon Sec. Mr. D. G. Davies, M.R.C.V.S., High-st, Swansea
Treas. Mr. E. Sayer, M.R.C.V.S., Newport, Mon.
Meetings First Thursday in March, and Autumn.

WESTERN COUNTIES V.M.A.
Pres: R. E. L. Penhale, M.R.C.V.S., Torrington
Hon. Sec: Mr. W. Ascott, M.R.C.V.S., Bideford
Treas: Mr. P. G. Bond, M.R.C.V.S., Plymouth
Meetings, Third Thursday, March, July and November

WEST OF SCOTLAND V.M.A.
Pres: Dr. James McIntosh McCall, Vety. Coll. Glasgow
Hon. Sec: & Treas: Mr. J. Bishop, M.R.C.V.S.,
754 Garscube Road, Glasgow

YORKSHIRE V.M.A
Pres Mr. Frank Somers, M.R.C.V.S. Wade Lane, Leeds
Hon. Sec; Mr. A. McCarmick, M.R.C.V.S., Kirkstall-rd, Leeds
Meetings, Last Friday in Jan., April, and October.